



Confirmation of Product Type Approval

Company Name: IMM HYDRAULICS SPA

Address: VIA ITALIA 49-51, ATESSA (CH), Italy, 66041

Product: Non-Metallic Flexible Hoses with End Fittings

Model(s): INTERPUMP Hypress R15, INTERPUMP Hypress R13, INTERPUMP Hypress R17, INTERPUMP Hypress 4SH, INTERPUMP KAIZEN 2SN, INTERPUMP HIPAC 2SC, INTERPUMP LONGLIFE 2SC, INTERPUMP Hypress 1SC, INTERPUMP Hypress 2SC, INTERPUMP Marathon

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	21-2100120-PDA	20-MAY-2021	19-MAY-2026
Manufacturing Assessment (MA)	19-GE3678320	28-MAY-2019	27-MAY-2024
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

INTERPUMP Hypress R15: Hydraulic petroleum based fluids (Mineral oils), glycol-water based fluids, water, lubricating oils, compressed air. INTERPUMP Hypress R13: Hydraulic petroleum based fluids (Mineral oils), glycol-water based fluids, water, lubricating oils, compressed air. INTERPUMP Hypress R17: Hydraulic fluids (Mineral and biological oils), glycol-water based fluids, water, lubricating oils, fuel, compressed air. INTERPUMP Hypress 4SH: Hydraulic petroleum based fluids (Mineral oils), glycol-water based fluids, water, lubricating oils, compressed air. INTERPUMP KAIZEN 2SN: Hydraulic fluids (Mineral and biological oils), glycol based fluids, water, lubricating oils, fuel, compressed air. INTERPUMP HIPAC 2SC: Mineral and biological oils, glycol-water based fluids, water, lubricating oils, fuel, compressed air. INTERPUMP LONGLIFE 2SC: Mineral and biological oils, glycol-water based fluids, water, lubricating oils, fuel, compressed air. INTERPUMP Hypress 1SC: Hydraulic fluids (Mineral and biological oils), glycol-water based fluids, water, lubricating oils, fuel, compressed air. INTERPUMP Hypress 2SC: Hydraulic fluids (Mineral and biological oils), glycol-water based fluids, water, lubricating oils, fuel, compressed air. INTERPUMP Marathon: Hydraulic fluids (Mineral and biological oils), glycol-water based fluids, water, lubricating oils, fuel, compressed air.

Description

INTERPUMP Hypress R15: Synthetic rubber, extruded whole without joints of uniform thickness with 4-6 high tensile steel wire spirals covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA cover.

INTERPUMP Hypress R13: Synthetic rubber, extruded whole without joints of uniform thickness with 4-6 high tensile steel wire spirals covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA cover.

INTERPUMP Hypress R17: Synthetic rubber, extruded whole without joints of uniform thickness with 1-2

high tensile steel braids, covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA Cover.

INTERPUMP Hypress 4SH: Synthetic rubber, extruded whole without joints of uniform thickness with 4 steel wire spirals covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA cover.

INTERPUMP KAIZEN 2SN: Synthetic rubber, extruded whole without joints of uniform thickness with 2 high tensile steel wire braids covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA and STD Cover.

INTERPUMP HIPAC 2SC: Synthetic rubber, extruded whole without joints of uniform thickness with 2 high tensile steel wire braids covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA and STD Cover.

INTERPUMP LONGLIFE 2SC: Synthetic rubber, extruded whole without joints of uniform thickness with 2 high tensile steel wire braids covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA and STD Cover.

INTERPUMP Hypress 1SC: Synthetic rubber, extruded whole without joints of uniform thickness with 1 high tensile steel wire braid covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions.

INTERPUMP Hypress 2SC: Synthetic rubber, extruded whole without joints of uniform thickness with 2 high tensile steel wire braids covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA cover.

INTERPUMP Marathon: Synthetic rubber, extruded whole without joints of uniform thickness with 2 high tensile steel wire braids covered by anti-abrasive synthetic rubber, resistant to oils, fuels and atmospheric conditions, MSHA cover.

Ratings

INTERPUMP Hypress R15: Temperature range -40°C + 121°C, 125°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, DN19 to DN51, 420 bar.

INTERPUMP Hypress R13: Temperature range -40°C + 121°C, 125°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, DN19 to DN51, 350 bar.

INTERPUMP Hypress R17: Temperature range -40°C + 100°C, 120°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, max +40°C for fuel, DN5 to DN25, 210 bar.

INTERPUMP Hypress 4SH: Temperature range -40°C + 100°C, 120°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, DN19 to DN51, from 250 bar to 420 bar.

INTERPUMP KAIZEN 2SN: Temperature range -40°C + 120°C, 135°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, max +40°C for fuel, DN5 to DN51, from 90 bar to 420 bar.

INTERPUMP HIPAC 2SC: Temperature range -40°C + 120°C. 135°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, max +40°C for fuel, DN6 to DN76, from 65 bar to 430 bar.

INTERPUMP LONGLIFE 2SC: Temperature range -40°C + 120°C. 135°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, max +40°C for fuel, DN6 to DN76, from 65 bar to 430 bar.

INTERPUMP Hypress 1SC: Temperature range -40°C + 120°C, 135°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, max +40°C for fuel, DN6 to DN25, from 88 bar to 225 bar.

INTERPUMP Hypress 2SC: Temperature range -40°C + 120°C, 135°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, max +40°C for fuel, DN6 to DN25, from 165 bar to 400 bar.

INTERPUMP Marathon: Temperature range -40°C + 120°C, 135°C intermittent, from -40°C to +70°C for water based fluids, from 0°C to +70°C for water, max +70°C for compressed air, max +40°C for fuel, DN6 to DN25, from 250 bar to 450 bar.

For additional details refer to attachment.

Service Restrictions

1) Unit Certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

2) Hoses are to be complete with factory assembled end fittings or factory supplied end fittings installed in accordance with manufacturer's specifications.

3) End connections are to comply with applicable requirements and limitation of ABS Marine Vessels Rules (4-6-2/5.5.4, 4-6-2/5.5.5, 4-6-7/3.5.1, 4-6-7/5.3.2).

4) Hose assemblies are to be installed only where flexibility is required, in clearly visible and readily accessible locations, and are not to be subject to torsional deflection under normal conditions; hose length is to be limited to that required by flexibility only.

5) Not to be used in high pressure fuel oil injection systems, steam systems or oil supply lines to boilers.

6) Not to be used for installations where repeated and/or frequent flexing is expected.

7) Marking for Flexible hoses are to be permanently marked by the manufacturer with the following details as per 4-6-2/5.7.6 of the ABS Marine Vessel Rules:

a) Hose manufacturer's name or trademark.

b) Date of manufacture (month/year).

c) Designation type reference

d) Nominal diameter

e) Pressure rating

f) Temperature rating.

8) The scope of Type Approval is to comply with MSC.1/Circ.1221 dated 11 December 2006

Comments

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes, Drawings and Documentation

Drawing No. 4, Ratings Revision 1, Revision: 1, Pages: 1

Drawing No. 5, LONGLIFE 2SC DATASHEET R1, Revision: 1, Pages: 1

Drawing No. HIPAC LONGLIFE Equivalence STATEMENT, HIPAC LONGLIFE Equivalence STATEMENT, Revision: 1, Pages: 1

Drawing No. Hoses Data Sheets, Current PDA Attachment, Revision: 0, Pages: 1

- Drawing No. LONGLIFE 2SC DataSheet, LONGLIFE 2SC DataSheet, Revision: 1, Pages: 1
- Drawing No. 1, List of hoses to be Type Approved, Revision: 1, Pages: 1
- Drawing No. 10, ISO 15540-15541 Report by LAPI AVP Fittings dated 12 Mar 2015, Revision: 0, Pages: 1
- Drawing No. 11, ISO 15540-15541 Report by LAPI Stainless Fittings dated 12 Mar 2015, Revision: 0, Pages: 1
- Drawing No. 12, Burst Test AVP Fittings by BV dated 06 May 2015, Revision: 0, Pages: 1
- Drawing No. 13, ISO 15540-15541 Report by LAPI AVP Fittings dated 12 Oct 2015, Revision: 0, Pages: 1
- Drawing No. 14, ISO 15540-15541 Report by LAPI Stainless Fittings dated 12 Oct 2015, Revision: 0, Pages: 1
- Drawing No. 15, HIPAC 2SC Renewal by BV dated 28 June 2017, Revision: 0, Pages: 1
- Drawing No. 16, ISO 15540 - 15541 Report by LAPI AVP Fittings dated 10 July 2013, Revision: 0, Pages: 1
- Drawing No. 17, ISO 15540 - 15541 Report by LAPI Stainless Fittings dated 07 July 2017, Revision: 0, Pages: 1
- Drawing No. 18, Impulse Test by BV dated 13 Nov 2015, Revision: 0, Pages: 1
- Drawing No. 19, Impulse Test by BV dated 13 Nov 2015, Revision: 0, Pages: 1
- Drawing No. 2, Hoses data Sheet, Revision: 1, Pages: 1
- Drawing No. 20, Two Pieces Ferrule Data Sheet, Revision: 0, Pages: 1
- Drawing No. 21, One Piece Overview, Revision: 0, Pages: 1
- Drawing No. 22, Witnessed Burst Test INTERPUMP MARATHON by IMM dated 25 May 2018, Revision: 0, Pages: 1
- Drawing No. 23, Witnessed Burst Test INTERPUMP KAIZEN by IMM dated 25 May 2018, Revision: 0, Pages: 1
- Drawing No. 24, Witnessed Burst Test INTERPUMP HYPRESS R17 by IMM dated 23 March 2018, Revision: 0, Pages: 1
- Drawing No. 25, Witnessed Burst Test INTERPUMP HYPRESS R15 by IMM dated 25 May 2018, Revision: 0, Pages: 1
- Drawing No. 26, Witnessed Burst Test INTERPUMP HYPRESS R13 by IMM dated 23 March 2018, Revision: 0, Pages: 1
- Drawing No. 27, Witnessed Burst Test INTERPUMP HYPRESS 2SC by IMM dated 23 March 2018, Revision: 0, Pages: 1
- Drawing No. 28, Witnessed Burst test INTERPUMP HYPRESS 1SC by IMM dated 23 March 2018, Revision: 0, Pages: 0
- Drawing No. 29, Hose Ratings Table, Revision: 0, Pages: 1
- Drawing No. 3, Qualification report witnessed by GL dated 13 Jan 2006, Revision: 0, Pages: 1
- Drawing No. 4, ISO 15540-15541 Report by LAPI AVP Fittings dated 10 July 2013, Revision: 0, Pages: 1
- Drawing No. 5, ISO 15540-15541 Report by LAPI Stainless Steel Fittings dated 27 Aug 2012, Revision: 0, Pages: 1

- Drawing No. 6, KAIZEN 2SN Renewal by DNV dated 28 June 2017, Revision: 0, Pages: 1
- Drawing No. 7, KAIZEN 2SN Cold Flexibility Test by RINA dated 29 July 2016, Revision: 0, Pages: 1
- Drawing No. 8, Qualification report by DNV dated 14 Dec 2009, Revision: 0, Pages: 1
- Drawing No. 9, Hypress 4SH Renewal by DNV dated 28 June 2017, Revision: 0, Pages: 1
- Drawing No. 30, ISO 15540 - 15541 Report by LAPI dated 21 June 2018, Revision: 0, Pages: 1
- Drawing No. 31, ISO 15540 - 15541 Report by LAPI dated 21 June 2018, Revision: 0, Pages: 1
- Drawing No. 32, ISO 15540 - 15541 Report by LAPI dated 21 June 2018, Revision: 0, Pages: 1
- Drawing No. 33, ISO 15540 - 15541 Report by LAPI dated 28 June 2018, Revision: 0, Pages: 1
- Drawing No. 34, ISO 15540 - 15541 Report by LAPI dated 28 June 2018, Revision: 0, Pages: 1
- Drawing No. 35, ISO 15540 - 15541 Report by LAPI dated 17 July 2018, Revision: 0, Pages: 1
- Drawing No. 36, ISO 15540 - 15541 Report by LAPI dated 28 June 2018, Revision: 0, Pages: 1

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 19/May/2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2021 Rules for Conditions of Classification - Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2021 Mobile Offshore Unit Rules 4-2-1/11.29

2021 Rules for Conditions of Classification, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2021 Marine Vessel Rules 4-6-2/5.7, 4-6-7/3.5.2

2021 High Speed Craft Rules 1-1-4/11.9, 1-1-A2, 1-1-A3, 4-4-1/9.19

2021 Guide for Building and Classing Yachts 1-1-3/3.3, 1-1-A3, 1-1-A5 and 4-1-1/Table 3, 4-4-1/9.19

International Standards

EN 857, Ed. 2015

EN 853, Ed.2015

EN 856, Ed. 2015

SAE J517, Ed.2017

ISO 11237, Ed. 2017

ISO 1436, Ed. 2017

ISO 3862, Ed. 2017

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



A handwritten signature in blue ink, appearing to read 'James J. White'.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 21-May-2021 4:02

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.